

## **II. STATUS OF CLAIMS**

Claims 1-56 are pending in the application. Claims 1-56 stand rejected. No claims have been added. No claims have been canceled. No new matter has been added by these amendments. Amended claims 1, 6, 7, 9 and 11 are presented for consideration. Allowance of the Claims is earnestly solicited.

### **A. Summary of the Patent Office's Rejections**

The Patent Office (sometimes referred to herein as "PTO") has made rejections of certain claims in an Office Action dated December 7, 2010 (hereinafter "Office Action").

### **B. Rejection under 35 U.S.C. § 101**

Claims 1-56 were rejected under 35 U.S.C. §101 as directed to non-statutory subject matter.

### **C. Rejection under 35 U.S.C. § 102**

Claims 6-9, 20-27, 29-38, 40-42, and 49-51, and 54-55 were rejected under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent No. 5,868,669 (hereinafter the "'669 Patent").

### **D. Rejection under 35 U.S.C. § 103**

Claims 1, 3-5, 10-13, 15-19, 43-48, 52-53 and 56 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over the '669 Patent in view of U.S. Patent No. 6,149,585 to Gray (hereinafter "Gray").

Claims 2 and 14 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over the '669 Patent in view of Gray and further in view of U.S. Patent No. 6,598,035 to Branson (hereinafter "Branson").

Claims 28 and 39 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over the '669 Patent in view of Branson.

### III. INFORMATION DISCLOSURE STATEMENT

The Patent Office has requested a discussion of the independent claim features and the corresponding prior art elements from the Information Disclosure Statement listing of prior art documentation. Specifically, the Patent Office has requested:

[F]or each claim limitation [total claims 1-56 pending in this application] identify a corresponding prior art element by page, line, and/or fig. The examiner is specifically looking for prior art elements corresponding to any of the following independent claim limitations. The following list claims 1-9 appears to represent the main invention(s)/embodiment(s).

Applicant respectfully submits that the 37 CFR 1.105 Requirement for Information is erroneous because a Director's signature is required for requirements for information made under Rule 1.105. No (Technology Center) Director signature is included with this action.

Also, The Patent Office has required Applicant to formulate an opinion. The Patent Office required "a discussion of which, if any, independent claim features (claim 1, 6, 9, 11) correspond to prior art elements from the information disclosure statement list of prior art documentation." The Patent Office appears to request an opinion about which claims elements MAY correspond to prior art elements. Such a request is not permitted under MPEP § 704.11:

#### 704.11 What Information May Be Required [R-3]

The terms "factual" and "facts" are included in 37 CFR 1.105 to make it clear that it is facts and factual information, that are known to applicant, or readily obtained after reasonable inquiry by applicant, that are sought, and that requirements under 37 CFR 1.105 are not requesting opinions that may be held or would be required to be formulated by applicant.

Finally, Applicant and Applicant's attorney are aware of their duty to disclose under 37 C.F.R. § 1.56 and believe that they are in compliance with that duty. Furthermore, neither Applicant nor Applicant's attorney have any reason to believe prior counsel has ever violated its duties under 37 C.F.R. § 1.56 with respect to the present application. Applicant is aware that an overly broad disclosure is burdensome on the Patent Office and has therefore made every effort to comply with his duties.

#### IV. SUMMARY OF TRAVERSES

##### A. Rejection under 35 U.S.C. § 101

Claims 1-56 recite steps for producing a disease diagnosis, which is a concrete and tangible result. However, Claims 1, 6, 7, 9 and 11 have been amended and are believed to be directed to statutory subject matter as the amended Claims are tied to a particular machine.

##### B. Rejection under 35 U.S.C. § 102

Claims 6 and 9 recite limitations which are not disclosed in the '669 Patent. All other Claims rejected under 102 depend from Claims 6 or 9. Specifically, the Patent Office has not established that the '669 Patent discloses “a plurality of diagnostic objects . . . [,]” “a plurality of disease objects . . . [,]” or “a plurality of valuator objects . . . [,]” Furthermore, the Patent Office has not established that the '669 Patent discloses “a plurality of diagnostic objects which *interact* to receive input from a user . . . [,]” “processing data indicative of a *value* of the symptom of the patient,” “diagnostic objects perform[ing] their own tasks and *directly* call[ing] upon other diagnostic objects . . . [,]” or “a *hierarchical* relationship” of the claimed objects. (Emphasis added). The Patent Office has therefore failed to establish a prima facie case of anticipation.

##### C. Rejection under 35 U.S.C. § 103

Claims 1 and 11 recite limitations which are not taught or suggested by the '669 Patent or Gray, either alone or in combination. All other Claims rejected under 103 depend from Claims 1 or 11. The Patent Office has therefore failed to establish a prima facie case of obviousness.

#### V. TRAVERSES

##### A. Rejection under 35 U.S.C. § 101

The Patent Office rejected Claims 1-56 under 35 U.S.C. §101 as directed to non-statutory subject matter. Applicant respectfully traverses; however, Claims 1, 6, 7, 9 and 11 have been amended and are believed to be directed to statutory subject matter as the amended Claims are tied to a particular machine. Furthermore,

amended Claims 1, 6, 7, 9 and 11 produce a diagnosis of a disease, which is a useful, concrete and tangible result.

Amended Claim 1 and amended Claim 11 recite steps for receiving user input to a computing device and, based on the invocation of selected objects, producing a disease diagnosis. For example, the objects and their hierarchy interact so as to transform user inputs into a disease diagnosis. As a result of the transformation of data from user input of symptoms to a complete diagnosis, Claim 1 produces a useful, concrete, tangible result.

Dependent claims 2-5, 12-19, 43-48, 52-53 and 56 are all presented for analysis based on amended independent claims 1, 6, 9 and 11.

#### **B. Rejection under 35 U.S.C. § 102**

The Patent Office rejected Claims 6-9, 20-27, 29-38, 40-42, and 49-51, and 54-55 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,868,669 (filed January 9, 1997) (hereinafter the “‘669 Patent”).

Applicant respectfully traverses. “An anticipating reference must describe the patented subject matter with sufficient clarity and detail to establish that the subject matter existed and that its existence was recognized by persons of ordinary skill in the field of invention.” *ATD Corp.v. Lydall, Inc.*, 48 USPQ.2d 1321,1328 (Fed. Cir. 1998) citing *In re Spada*, 15 USPQ.2d 1655, 1657 (Fed. Cir. 1990). (Emphasis added).

Furthermore, “anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration.” *W.L. Gore & Assocs. v. Garlock*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). Further, “anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983). (Emphasis added).

Finally, “the burden of establishing a prima facie case of anticipation resides with the Patent and Trademark Office.” *In re Skinner*, 2 USPQ2d 1788-89 (B.P.A.I. 1986).

The Patent Office has not established that the '669 Patent teaches each and every element of the present invention, arranged as in the Claim, with sufficient clarity and detail to establish that the subject matter existed and that its existence was recognized by persons of ordinary skill in the art.

**i. The '669 Patent does not anticipate Claim 6**

The present application claims:

An object based automated diagnostic system implemented as a set of instructions executed by a computing device comprising:

a plurality of diagnostic objects which interact, as executed by the computing device, to receive input from a user and, as a result of said interaction, determine a diagnosis of a patient, wherein the objects include at least two diagnostic objects comprising:

a disease object processing data indicative of an abnormal health state or disease, a symptom object processing data indicative of a patient sign, complaint, finding, or test result, a valuator object processing data indicative of a value of a symptom of the patient, a question object processing data indicative of questions to ask the patient specific to a specific symptom of the patient, a node object processing data indicative of a single well-defined question to the patient, and a candidates object processing data indicative of candidate diseases for diagnosis of the patient, wherein the objects are arranged in a hierarchical relationship such that the result of one of the objects is input to another of the objects; and

at least one of the diagnostic objects directly invokes another of the diagnostic objects in a computer-based medical diagnostic system so as to output a diagnosis of a patient based on the prior object invocation. (Present application, amended Claim 6)

The present application claims “a plurality of diagnostic objects which interact . . . to receive input from a user and, as a result of said interaction, determine a diagnosis of a patient . . . [.]” The Patent Office has not shown that the '669 Patent discloses “a plurality of diagnostic objects” or that “a plurality of diagnostic objects . . . interact . . . to receive input from a user . . . [.]”

The present application claims “a disease object processing data indicative of an abnormal health state or disease . . . [.]” The Patent Office has not shown that the '669 Patent discloses “a disease object . . . [.]” The Patent Office’s assertion that “abnormal health state or disease corresponds to . . . [the present application’s] disease object[s]” is not supported by objective evidence.

The present application claims “a valuator object processing data indicative of a value of a symptom of the patient . . . [.]” The Patent Office has not shown that the ‘669 Patent discloses “a valuator object . . . [.]” Furthermore, the Patent Office has not shown that the ‘669 Patent discloses “processing data indicative of a *value* of a symptom of the patient,” (emphasis added).

The present application claims “a node object processing data indicative of a single well-defined question to the patient . . . [.]” The Patent Office has cited various portions of the ‘669 Patent disclosing “screening questions,” but has not shown that the ‘669 Patent discloses “processing data indicative of a single well defined question . . . [.]”

Finally, the present application claims “the objects are arranged in a hierarchical relationship such that the result of one of the objects is input to another of the objects . . . [.]” The Patent Office has not shown that the ‘669 Patent discloses “a hierarchical relationship” of the claimed objects. The portions of the ‘669 Patent cited by the Patent Office disclose that “the flow of interaction can be described by a binary tree[,]” and that “acceptable responses . . . are branches leading to the next question . . . [.]” Assuming, arguendo, a “binary tree” of “acceptable responses” may be considered hierarchical, the Patent Office has not shown that the ‘669 Patent discloses “*the objects* are arranged in a hierarchical relationship . . . [.]” (Emphasis added).

The Patent Office has not established that the ‘669 Patent discloses each and every element of the present invention, arranged as in the Claim, with sufficient clarity and detail to establish that the subject matter existed and that its existence was recognized by persons of ordinary skill in the art. Specifically, the Patent Office has not established that the ‘669 Patent discloses “a plurality of diagnostic objects . . . [.]” “a disease object . . . [,]” or “a valuator object . . . [.]” Furthermore, the Patent Office has not established that the ‘669 Patent discloses “a plurality of diagnostic objects which *interact* . . . to receive input from a user . . . [.]” “processing data indicative of a *value* of a symptom of the patient,” or “a *hierarchical* relationship” of the claimed objects. (Emphasis added).

**ii. The ‘669 Patent does not anticipate Claim 9**

The present application claims:

An object based automated diagnostic system implemented as a set of instructions executed by a computing device comprising:

a plurality of diagnostic objects which interact to receive input from a user and, as a result of said interaction, determine a diagnosis of a patient, wherein the diagnostic objects include at least a plurality of disease objects, each disease object processing data indicative of an abnormal health state or disease,

a plurality of symptom objects, each symptom object processing data indicative of a patient sign, complaint, finding, or test result, and a plurality of valuator objects, each valuator object processing data indicative of a value of a symptom of the patient, and

wherein at least some of the diagnostic objects perform their own tasks and directly call upon other diagnostic objects to perform their tasks at the appropriate time in a computer-based medical diagnostic system so as to output a diagnosis of a patient, wherein the system is operable on a computing environment. (Present application, amended Claim 9)

The present application claims “a plurality of diagnostic objects which interact to receive input from a user and, as a result of said interaction, determine a diagnosis of a patient . . . [.]” The Patent Office has not shown that the ‘669 Patent discloses “a plurality of diagnostic objects” or that “a plurality of diagnostic objects . . . *interact* . . . to receive input from a user . . . [.]” (Emphasis added).

The present application claims “a plurality of disease objects, each disease object processing data indicative of an abnormal health state or disease . . . [.]” The Patent Office has not shown that the ‘669 Patent discloses “a plurality disease objects . . . [.]” The Patent Office’s assertion that “abnormal health state or disease corresponds to . . . [the present application’s] disease object[s]” is not supported by objective evidence.

The present application claims “a plurality of symptom objects, each symptom object processing data indicative of a patient sign, complaint, finding, or test result . . . [.]” The Patent Office has not shown that the ‘669 Patent discloses “a plurality of symptom objects . . . [.]”

The present application claims “a plurality of valuator objects, each valuator object processing data indicative of a value of a symptom of the patient . . . [.]” The Patent Office has not shown that the ‘669 Patent discloses “a plurality of valuator

objects . . . [.]” Furthermore, the Patent Office has not shown that the ‘669 Patent discloses “processing data indicative of a *value* of a symptom of the patient . . . [.]” (Emphasis added).

The present application claims “a node object processing data indicative of a single well-defined question to the patient . . . [.]” The Patent Office has cited various portions of the ‘669 Patent disclosing “screening questions,” but has not shown that the ‘669 Patent discloses “processing data indicative of a single well defined question . . . [.]”

Finally, the present application claims “some of the diagnostic objects perform their own tasks and directly call upon other diagnostic objects to perform their tasks at the appropriate time . . . so as to output a diagnosis of a patient . . . [.]” The Patent Office has not shown that the ‘669 Patent discloses “diagnostic objects . . . *directly* call[ing] upon other diagnostic objects. . . [.]” (Emphasis added).

The Patent Office has not established that the ‘669 Patent discloses each and every element of the present invention, arranged as in the Claim, with sufficient clarity and detail to establish that the subject matter existed and that its existence was recognized by persons of ordinary skill in the art. Specifically, the Patent Office has not established that the ‘669 Patent discloses “a plurality of diagnostic objects . . . [.]” “a plurality of disease objects . . . [.]” or “a plurality of valuator objects . . . [.]” Furthermore, the Patent Office has not established that the ‘669 Patent discloses “a plurality of diagnostic objects which *interact* to receive input from a user . . . [.]” “processing data indicative of a *value* of a symptom of the patient,” or “diagnostic objects perform[ing] their own tasks and *directly* call[ing] upon other diagnostic objects . . . [.]” (Emphasis added).

iii. **All other Claims rejected under 102 depend from Claim 6 or Claim 9**

All of the remaining claims rejected by the Patent Office under 35 U.S.C. § 102 depend either directly or indirectly from Claim 6 or Claim 9. Specifically, Claims 7-8, 20, 24-27, 29, 49-50 and 54 depend directly from Claim 6; Claim 30 depends from Claim 8 and Claims 21-23 depend from Claim 20. Likewise, Claims 31-32, 35-38, 40-41



and 51 depend directly from Claim 9; Claims 33-34 depend from Claim 32 and Claim 42 depends from Claim 41.

Claim 6 and Claim 9 both claim limitations which are not anticipated by the '669 Patent. Dependent Claims must contain all of the limitations of the Claims from which they depend; therefore, all of the Claims which depend directly or indirectly from Claims 6 or 9 also include limitations not anticipated by the '669 Patent.

The Patent Office has not established that the '669 Patent anticipates each and every element of the present invention, arranged as in the Claims, with sufficient clarity and detail to establish that the subject matter existed and that its existence was recognized by persons of ordinary skill in the art. Therefore, Applicant respectfully submits that the '669 Patent fails to support a 102(b) rejection over the present application. Application respectfully requests allowance of his Claims.

#### **C. Rejection under 35 U.S.C. § 103**

The Patent Office rejected Claims 1, 3-5, 10-13, 15-19, 43-48, 52-53 and 56 under 35 U.S.C. § 103(a) as unpatentable over the '669 Patent in view of U.S. Patent No. 6,149,585 (filed October 28, 1998) (hereinafter "Gray").

Applicant respectfully traverses. "The PTO has the burden under section 103 to establish a prima facie case of obviousness." *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988). "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." *In re Ryoka*, 180 USPQ 580 (C.C.P.A. 1974). See also *In re Wilson*, 165 USPQ 494 (C.C.P.A. 1970). Further, "[t]o establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations." (MPEP § 2143). "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR v. Teleflex*, 550 U.S. 398, 418, 127 S. Ct. 1727, 1741.

“Dependent claims are nonobvious under section 103 if the independent claims from which they depend are nonobvious.” *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

The Patent Office has failed to show how the references, either alone or in combination, teach or suggest all the claim limitations. The Patent Office has also failed to show an explicit reason, suggestion, or motivation to modify the disclosure of the ‘669 Patent, or the disclosure of Gray.

**i. The references do not teach the limitations of Claim 1**

The present application claims:

A method of diagnosing a patient, implemented as a set of instructions executed by a computing device, through the reuse of medical script objects used in the automated diagnosis or management of a medical condition, the method comprising:

providing, to the computing device, a plurality of disease objects, each disease object processing data indicative of an abnormal health state or disease;

providing, to the computing device, a plurality of symptom objects, each symptom object processing data indicative of at least a patient sign, complaint, finding, or test result;

associating, via the computing device, a disease object with at least one symptom object;

assigning, via the computing device, a weight for each symptom object, wherein a particular disease object includes a preferred weight for one or more preferred symptom objects and an alternative weight for one or more related alternative symptom objects, wherein the preferred symptom objects and the alternative symptom objects for a particular preferred symptom object are selected from a set of archived symptom objects that are available for reuse;

receiving, via direct interactive dialogue between a user and the computing device, a patient symptom input;

associating the patient symptom input with at least one symptom object;

selecting, via the computing device, at least one disease object applicable to a patient based on at least one of the preferred symptom object or the alternative symptom object;

invoking, via the computing device, a preferred symptom object or one of the related alternative symptom objects for the selected disease object so as to determine a diagnosis of a patient based on the object invocation; and

outputting, via the computing device, a diagnosis based at least one of the invoking or selecting,

wherein each object comprises an encapsulated combination of data and processes that manipulate the data. (Present application, amended Claim 1)

The present application claims “[a] method of diagnosing a patient, implemented as a set of instructions executed by a computing device, through the reuse of medical script objects . . . [.]” The Patent Office has not shown that the ‘669 Patent discloses the “*reuse* of medical script objects.” (Emphasis added).

The present application claims “a plurality of disease objects, each disease object processing data indicative of an abnormal health state or disease . . . [.]” The Patent Office’s assertion that “abnormal health state or disease corresponds to . . . [the present application’s] disease object[s]” is not supported. Furthermore, the Patent Office cited portions of the ‘669 Patent that disclose “callers can learn about a disease process, an illness or the latest treatment for any disease . . . [.]” (‘669 Patent, col. 20, lines 1-5) and “[t]he problem screening questions identify . . . the subset of patients whose headaches may require immediate medical care.” (‘669 Patent, col. 36, lines 50-63). The Patent Office has not shown how the cited portions of the ‘669 Patent teach or suggest “a plurality of disease objects . . . processing data indicative of an abnormal health state or disease . . . [.]”

The present application claims “providing . . . a plurality of symptom objects, each symptom object processing data indicative of at least a patient sign, complaint, finding, or test result . . . [.]” The Patent Office cited portions of the ‘669 Patent that disclose “the MDATA system . . . asks the patient a series of ‘diagnostic screening questions.’ From the answers to these questions, along with any physical signs elicited from the patient . . . the system establishes the most likely cause of the patient’s headache.” (‘669 Patent, col. 39, lines 35-60). The Patent Office has not shown how the cited portions of the ‘669 Patent teach or suggest “a plurality of symptom objects . . . [.]” (Present application) Specifically, the Patent Office has not shown how “diagnostic screening questions” (‘669 Patent) teach or suggest “symptom objects . . . [.]” (Present application).

The present application claims “assigning . . . a weight for each symptom object, wherein a particular disease object includes a preferred weight for one or more preferred symptom objects and an alternative weight for one or more related

alternative symptom objects, wherein the preferred symptom objects and the alternative symptom objects for a particular preferred symptom object are selected from a set of archived symptom objects that are available for reuse . . . [.]” The Patent Office cited portions of the ‘669 Patent that disclose “the scoring of the screening questions already weighted is modulated or modified by the sensitivity factors” (‘669 Patent, col. 60, lines 24-34) and “(each question in an algorithm can be modified)—this would change the ‘weight’ of the question in a series of weighted questions . . . [.]” (‘669 Patent, col. 61, lines 45-48). The Patent Office has not shown how changing “the ‘weight’ of the question in a series of weighted questions” teaches or suggests “assigning . . . a weight for each symptom object . . . [.]” (Present application). Specifically, the Patent Office has not shown how a “question” (‘669 Patent) teaches or suggests a “symptom object . . . [.]” (Present application).

The present application claims “a particular disease object includes a preferred weight for one or more preferred symptom objects and an alternative weight for one or more related alternative symptom objects . . . [.]” The Patent Office correctly acknowledges that the ‘669 Patent does not disclose “a preferred weight” and “an alternative weight . . . [.]” The Patent Office instead cited portions of Gray which disclose “elaborate statistical data for the associated symptoms’ relationship to the diagnosis could be presented. Such data could include individual symptom correlation statistics or weighting.” (Gray, col. 6, lines 25-48). Gray also discloses “[o]ver time, the system may determine that having a palpable mass is more determinative for the benign bone tumor diagnosis than having any of the other symptoms. Thus, correlation levels or weighted values could be determined for each symptom and presented to the user.” (Gray, col. 6, lines 25-48) The Patent Office has not shown how presenting “elaborate statistical data . . . include[ing] individual symptom correlation statistics or weighting” (Gray) teaches or suggests “a *preferred* weight for one or more *preferred* symptom objects . . . [.]” (Present application) (emphasis added). Likewise, the Patent Office has not shown how presenting “elaborate statistical data . . . include[ing] individual symptom correlation statistics or weighting” (Gray) teaches or suggests “an *alternative* weight for one or more *alternative* symptom objects . . . [.]” (Present application) (emphasis added).

Furthermore, the Patent Office has not shown how the disclosure that “correlation levels or weighted values could be determined for each symptom and presented to the user” (Gray) teaches or suggests “a preferred weight for one or more preferred symptom objects and an alternative weight for one or more related alternative symptom objects . . . [.]” (Present application). Specifically, the Patent Office has not shown how *presenting* “correlation levels or weight values . . . for each symptom . . . to the user” (Gray) teaches or suggests “A disease object” *having* “a preferred weight . . . and an alternative weight. . . [.]” (Present application).

The Patent Office has not shown how the ‘669 Patent, or the disclosure of Gray, either alone or in combination, teach or suggest all of the limitations of Claim 1. Therefore, Applicant respectfully submits that the Patent Office has not established a *prima facie* case of obviousness under 103(a) as to Claim 1. Claims 3-5, 18-19, 45-48 and 53 all depend from claim 1. A dependent Claim must contain all of the limitations of the Claim from which it depends; therefore the Patent Office has not shown how the ‘669 Patent and Gray teach all of the limitation of dependent Claims 3-5, 18-19, 45-48 and 53.

The Patent Office has not shown how the ‘669 Patent and Gray teach all of the limitations of Claims 1, 3-5, 18-19, 45-48 and 53. The rejection is therefore traversed. Applicant respectfully requests allowance of the Claims.

**ii. The references do not teach the limitations of Claim 11**

The present application claims:

A method of diagnosing a patient through the reuse of medical script objects implemented as a set of instructions executed by a computing device and used in the automated diagnosis or management of a medical condition, the method comprising:

- providing a plurality of disease objects, each disease object processing data indicative of an abnormal health state or disease and each disease object associated with a plurality of symptom objects, each symptom object processing data indicative of a patient sign, complaint, finding, or test result;

- receiving, via direct interactive dialogue between a user and the computing device, a patient symptom input;

- associating the patient symptom input with at least one symptom object;

- assigning, via the computing device, a weight for each symptom,

wherein a particular disease object includes a preferred weight for one or more preferred symptoms and an alternative weight for one or more alternative symptoms, wherein the alternative symptoms for a particular preferred symptom are selected from a set of archived symptom objects that are available for reuse, and wherein the particular preferred symptom has one or more related alternative symptoms that represent different approaches for eliciting further diagnostic information related to a same patient health condition;

selecting, via the computing device, from the plurality of disease objects, a disease object applicable to a patient;

invoking, via the computing device, a preferred symptom object or one of the related alternative symptom objects for the selected disease object so as to output a diagnosis of a patient based on the object invocation; and

outputting, via the computing device, a diagnosis based at least one of the invoking or selecting. (Present application, Claim 11)

The present application claims “[a] method of diagnosing a patient through the reuse of medical script objects . . . [.]” The Patent Office has not shown that the ‘669 Patent discloses the “*reuse* of medical script objects.” (Emphasis added).

The present application claims “a plurality of disease objects, each disease object processing data indicative of an abnormal health state or disease . . . [.]” The Patent Office’s assertion that “abnormal health state or disease corresponds to . . . [the present application’s] disease object[s]” is not supported. Furthermore, the Patent Office cited portions of the ‘669 Patent that disclose “callers can learn about a disease process, an illness or the latest treatment for any disease . . . [.]” (‘669 Patent, col. 20, lines 1-5) and “[t]he problem screening questions identify . . . the subset of patients whose headaches may require immediate medical care.” (‘669 Patent, col. 36, lines 50-63). The Patent Office has not shown how the cited portions of the ‘669 Patent teach or suggest “a plurality of disease objects . . . processing data indicative of an abnormal health state or disease . . . [.]” (Present applications).

The present application claims “a plurality of symptom objects, each symptom object processing data indicative of a patient sign, complaint, finding, or test result . . . [.]” The Patent Office cited portions of the ‘669 Patent that disclose “the MDATA system . . . asks the patient a series of ‘diagnostic screening questions.’ From the answers to these questions, along with any physical signs elicited from the patient . . . the system establishes the most likely cause of the patient’s headache.” (‘669

Patent, col. 39, lines 35-60). The Patent Office has not shown how the cited portions of the '669 Patent teach or suggest "a plurality of symptom objects . . . [.]" (Present application) Specifically, the Patent Office has not shown how "diagnostic screening questions" ('669 Patent) teach or suggest "symptom objects . . . [.]" (Present application).

The present application claims "assigning . . . a weight for each symptom . . . [.]" The Patent Office cited portions of the '669 Patent that disclose "the scoring of the screening questions already weighted is modulated or modified by the sensitivity factors" ('669 Patent, col. 60, lines 24-34) and "(each question in an algorithm can be modified)—this would change the 'weight' of the question in a series of weighted questions . . . [,]" ('669 Patent, col. 61, lines 45-48) and "[t]he questions are weighted . . . depending on how important each question is to the diagnosis." ('669 Patent, col. 62, lines 28-39). The Patent Office has not shown how changing "the 'weight' of the question in a series of weighted questions" ('669 Patent) teaches or suggests "assigning . . . a weight for each symptom object . . . [.]" (Present application). Specifically, the Patent Office has not shown how a "question" ('669 Patent) teaches or suggests a "symptom object . . . [.]" (Present application).

The present application claims "a preferred weight for one or more preferred symptoms and an alternative weight for one or more alternative symptoms . . . [.]" The Patent Office correctly acknowledges that the '669 Patent does not disclose "a preferred weight" and "an alternative weight . . . [.]" The Patent Office instead cited portions of Gray which disclose "elaborate statistical data for the associated symptoms' relationship to the diagnosis could be presented. Such data could include individual symptom correlation statistics or weighting." (Gray, col. 6, lines 25-48). Gray also discloses "[o]ver time, the system may determine that having a palpable mass is more determinative for the benign bone tumor diagnosis than having any of the other symptoms. Thus, correlation levels or weighted values could be determined for each symptom and presented to the user." (Gray, col. 6, lines 25-48) The Patent Office has not shown how presenting "elaborate statistical data . . . include[ing] individual symptom correlation statistics or weighting" (Gray) teaches or suggests "a *preferred* weight for one or more *preferred* symptom objects . . . [.]" (Present

application) (emphasis added). Likewise, the Patent Office has not shown how presenting “elaborate statistical data . . . include[ing] individual symptom correlation statistics or weighting” (Gray) teaches or suggests “an *alternative* weight for one or more *alternative* symptom objects . . . [.]” (Present application) (emphasis added).

Furthermore, the Patent Office has not shown how the disclosure that “correlation levels or weighted values could be determined for each symptom and presented to the user” (Gray) teaches or suggests “a preferred weight for one or more preferred symptom objects and an alternative weight for one or more related alternative symptom objects . . . [.]” (Present application). Specifically, the Patent Office has not shown how *presenting* “correlation levels or weight values . . . for each symptom . . . to the user” (Gray) teaches or suggests “A disease object” *having* “a preferred weight . . . and an alternative weight. . . [.]” (Present application).

The present application claims “the alternative symptoms for a particular preferred symptom are selected from a set of archived symptom objects that are available for reuse, and . . . the particular preferred symptom has one or more related alternative symptoms that represent different approaches for eliciting further diagnostic information related to a same patient health condition . . . [.]” The Patent Office cited portions of the ‘669 Patent which disclose “the MDATA system . . . uses ‘V-codes’ to classify other types of circumstances or events . . . [.]” (‘669 Patent, col. 13, lines 6-29) and “the MDATA system . . . asks the patient a series of ‘diagnostic screening questions.’ From the answers to these questions, along with any physical signs elicited from the patient . . . the system establishes the most likely cause of the patient’s headache.” (‘669 Patent, col. 39, lines 36-57). Also, the ‘669 Patent discloses “[i]f the probability of having a migraine headache does reach the threshold, the MDATA system . . . asks the patient several more questions designed to confirm the presence of migraine . . . [.]” (‘669 Patent, col. 40, lines 7-32).

The Patent Office has not shown how the ‘669 Patent teaches or suggests “a set of archived symptom objects that are available for reuse . . . [.]” (Present application). Furthermore, the Patent Office has not shown how “ask[ing] the patient several more questions” (‘669 Patent) teaches or suggests a “particular preferred symptom has one or more related alternative symptoms that represent different



approaches for eliciting further diagnostic information related to a same patient health condition . . . [.]” (Present application). Specifically, the Patent Office has not shown how “several more questions” (‘669 Patent) teaches or suggests “different approaches . . . [.]” (Present application).

The Patent Office has not shown how the ‘669 Patent and Gray, either alone or in combination, teach or suggest all of the limitations of Claim 11. Applicant respectfully submits that the Patent Office has not established a prima facie case of obviousness under 103(a) as to Claim 11. Claims 12-13, 15-16, 18, 43-44, 52 and 56 all depend from Claim 11. A dependent Claim must contain all of the limitations of the Claim from which it depends; therefore the Patent Office has not shown how the ‘669 Patent and Gray teach all of the limitation of dependent Claims 12-13, 15-16, 18, 43-44, 52 and 56.

The Patent Office has not shown how the ‘669 Patent and Gray teach all of the limitations of Claims 11, 12-13, 15-16, 18, 43-44, 52 and 56. The rejection is therefore traversed. Applicant respectfully requests allowance of the Claims.

**iii. The references do not teach the limitations of Claim 10**

The present application claims:

The system of Claim 9, wherein at least one of the plurality of disease objects includes a preferred weight for a preferred symptom and an alternative weight for one or more alternative symptoms of the preferred symptom. (Present application, claim 10).

The present application claims a method of diagnosing a patient using a computer having a plurality of disease objects “wherein at least one of the plurality of disease objects includes a preferred weight for a preferred symptom and an alternative weight for one or more alternative symptoms of the preferred symptom.” The Patent Office cited the ‘669 Patent as anticipating Claim 9. Claim 10 depends from Claim 9 and therefore includes all of the limitations of Claim 9. All of the arguments presented herein traversing the Patent Offices 102 rejection of Claim 9 also apply to the Patent Office’s 103 rejection of Claim 10.

The Patent Office correctly acknowledges that the ‘669 Patent does not disclose “a preferred weight” and “an alternative weight . . . [.]” The Patent Office instead cited portions of Gray which disclose “elaborate statistical data for the

associated symptoms' relationship to the diagnosis could be presented. Such data could include individual symptom correlation statistics or weighting.” (Gray, col. 6, lines 25-48). Gray also discloses “[o]ver time, the system may determine that having a palpable mass is more determinative for the benign bone tumor diagnosis than having any of the other symptoms. Thus, correlation levels or weighted values could be determined for each symptom and presented to the user.” (Gray, col. 6, lines 25-48).

The Patent Office has not shown how presenting “elaborate statistical data . . . include[ing] individual symptom correlation statistics or weighting” (Gray) teaches or suggests “a *preferred* weight for a *preferred* symptom. . . [.]” (Present application) (emphasis added). Likewise, the Patent Office has not shown how presenting “elaborate statistical data . . . include[ing] individual symptom correlation statistics or weighting” (Gray) teaches or suggests “an *alternative* weight for one or more *alternative* symptoms . . . [.]” (Present application) (emphasis added).

Furthermore, the Patent Office has not shown how the disclosure that “correlation levels or weighted values could be determined for each symptom and presented to the user” (Gray) teaches or suggests “a preferred weight for a preferred symptom and an alternative weight for one or more related alternative symptoms . . . [.]” (Present application). Specifically, the Patent Office has not shown how *presenting* “correlation levels or weight values . . . for each symptom . . . to the user” (Gray) teaches or suggests “A disease object” *having* “a preferred weight . . . and an alternative weight. . . [.]” (Present application).

The Patent Office has not shown how the ‘669 Patent and Gray, either alone or in combination, teach or suggest all of the limitations of Claim 10. Therefore, Applicant respectfully submits that the Patent Office has not established a prima facie case of obviousness under 103(a) as to Claim 10. Applicant respectfully requests allowance of the Claim.

Furthermore, Applicant respectfully traverses all the arguments made in the office action that were not specifically addressed herein.

#### IV. CONCLUSION

In light of the foregoing amendments and arguments, reconsideration of the claims is hereby requested, and a Notice of Allowance is earnestly solicited.

Respectfully submitted,

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